

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled).
2. (Cancelled).
3. (Currently Amended) An isolated polynucleotide encoding a polypeptide selected from the group consisting of:
 - a) a polypeptide comprising SEQ ID NO:1;
 - b) a polypeptide comprising an amino acid sequence at least 90% identical to an amino acid sequence of at least about 20 contiguous amino acids of SEQ ID NO:1, wherein the polypeptide has carbonic anhydrase activity. ;
 - e) ~~a biologically active fragment of SEQ ID NO:1, wherein the fragment has carbonic anhydrase activity; and~~
 - d) ~~an immunogenic fragment comprising at least about 10 amino acids of SEQ ID NO:1, wherein the fragment has immunological activity of carbonic anhydrase.~~
4. (Previously Presented) An isolated polynucleotide encoding a polypeptide of SEQ ID NO:1.
5. (Currently Amended) ~~An~~ The isolated polynucleotide of claim 4 comprising SEQ ID NO:4.
6. (Currently Amended) A recombinant polynucleotide comprising a promoter sequence operably linked to a the polynucleotide of claim 3.
7. (Currently Amended) An isolated cell transformed with a the recombinant polynucleotide of claim 6.

8. (Currently Amended) A transgenic organism comprising a the recombinant polynucleotide of claim 6.

9. (Previously Presented) A method for producing a polypeptide encoded by the polynucleotide of claim 3, the method comprising:

- a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide of claim 3, and
- b) recovering the polypeptide so expressed.

10. (Cancelled).

11. (Currently Amended) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising a polynucleotide sequence of SEQ ID NO:4,
- b) a ~~naturally occurring~~ polynucleotide comprising a polynucleotide sequence at least 90% identical to a polynucleotide sequence of at least about 60 contiguous nucleotides of SEQ ID NO:4, wherein the polynucleotide encodes a polypeptide that has carbonic anhydrase activity,
- c) a polynucleotide complementary to a polynucleotide of a),
- d) a polynucleotide complementary to a polynucleotide of b), and
- e) an RNA equivalent of a)-d).

12.-50. (Cancelled).

51. (Currently Amended) The polynucleotide of claim 3 encoding a polypeptide comprising an amino acid sequence at least 95% identical to an amino acid sequence of at least about 20 contiguous amino acids of SEQ ID NO:1.